WHITE-TAILED DEER

Historical Perspective

White-tailed deer (*Odocoileus virginianus*) were reported to be quite abundant when European settlers arrived in Iowa in the early 1800's. Although the clearing and cultivating of land for agriculture may have initially improved the suitability of the landscape for deer, uncontrolled exploitation for food and hides rapidly reduced deer numbers. By 1880, deer were rarely sighted in much of the state and, in 1898, the deer season was legally closed. By this time deer had been virtually eliminated from all parts of the state.

Re-establishment of deer into the state can be traced to escapes and releases from captive herds and translocation and natural immigration from deer herds in surrounding states. A conservative estimate of the population in 1936 placed statewide numbers at between 500 and 700 animals. This small herd grew steadily. By 1950 deer were reported in most counties and the statewide estimate topped 10,000. Concentrations in some areas were beginning to cause problems by damaging agricultural crops. In response to these problems the first modern deer season was held in December of 1953 and 4,000 deer were killed. This spring the deer herd was estimated to be about 210,000 before the fawning season. The harvest in 1996 exceeded 100,000 for the first time ever.

Although deer are frequently associated with forested areas, deer will utilize many different types of habitat as long as the area provides adequate cover. Examples of these types of areas include brushy draws and fencelines, marshes, and grassy areas like those provided by the federal Conservation Reserve Program (CRP). Standing corn also provides ideal habitat for part of the year since it provides food, cover and easy travel lanes. Deer utilize almost all plants for food at one time or another during the year. Deer feeding habits can best be described as being randomly selective as deer will sample many plants while feeding but often utilize a single source of food for the majority of their diet.

The whitetail's ability to thrive in Iowa is likely the result of an abundant, reliable food source and a winter climate where snow depths rarely exceed 12" for a prolonged length of time. These factors combine to allow deer to come through the "winter bottleneck" in excellent condition. The excellent nutrition also enables deer to have high reproductive rates. Many does in Iowa have a single fawn their first year and 2 fawns each subsequent year. Deer in the wild can probably maintain these high reproductive rates until they are well past 10 years of age. Past research in Iowa has found that 8 to 12% of adult does have 3 fawns.

Another reason that deer do so well in Iowa is that they are very mobile. Although many deer never move far from the area where they were born, a significant number (10-20% on average) leave and travel to new areas before establishing a core area. These core areas may change seasonally with deer shifting between wintering areas and fawning areas. These movements allow deer to fill voids left open due to deaths and changing habitat. Thus deer easily pioneer into new areas when habitat is suitable. The highest rates of movement occur during 2 periods of the year. The first is in the spring when does move to their fawning areas. Many of the previous year’s fawns

are forced to find areas of their own at this time. The second period is in the fall during the breeding season. The breeding season or rut begins in mid-October and runs through mid-January, although the peak of activity occurs during early to mid-November.

Careful management of deer populations by man has also played an important role in allowing deer numbers to return to the levels enjoyed today. Management consists of carefully regulating the doe harvest since hunting provides the major source of mortality for deer in Iowa today. Unchecked, Iowa's deer herd could grow at a rate of 20% to 40% each year. At this rate, deer numbers would double in as few as 3 years. With Iowa's abundant agricultural crops providing food, densities could potentially reach 100 or more deer per square mile before natural regulatory mechanisms would begin to affect deer health and slow the rate of reproduction. Deer numbers this high would cause economic hardship to Iowa's landowners as well as alter the natural vegetative community. Maintaining a deer population in balance with the wants and needs of the people in the state is a difficult task and hunting is the only viable management option to achieve this goal.

2002 Hunting Season Results

A record number of deer were killed during the 2002 season. The estimated kill was 140,490 (Table 1.4) which is about 3% higher than in 2001 (Table 1.2). The previous record harvest was in 2001 when an estimated 136,655 deer were taken. Almost all of the increase was due to an increased kill of antlerless deer. The number of does killed increased by about 4,200 or 7% over 2001. Most of the increase was due to the extra 22,695 antlerless licenses issued during the archery, second shotgun and late muzzleloader season as well as during the January season. The estimated number of antlered deer in the harvest has stayed about the same since 2000.

The season framework was basically the same as last year (Table 1.1). This was the seventh year for the special January season which included 22 counties, an increase of 11 from 2001. Landowners in these counties could get a free tag for this season in addition to the normal free license and the regular tags a deer hunter could legally obtain. For the second year hunters in both shotgun seasons, the late muzzleloader season and the bow season were allowed to obtain a bonus antlerless license for all 99 counties in Iowa. These licenses were restricted to a specific county.

About 2,000 deer were taken during special management hunts in urban areas and state and county parks and another 1,150 deer were taken on special depredation tags issued to landowners with damage problems.

Seven of the top 10 counties for total kill were either in the northeast or southeast corner of the state. Clayton was the top county for total kill with 5,739 deer or about 7.5 per square mile of area (Table 1.5 & 1.6). Osceola county had the lowest kill with an estimate of 263 deer or only about 0.7 deer per square mile.

The relative precision of the harvest estimates from the 9 separate postcard surveys ranged from ±2% for first season shotgun hunters to ±11% for the youth season. The relative precision for the doe harvest ranged from ±4% for first season shotgun hunters to ±18% for the youth season. A total of 50,825 license holders were sampled with 32,179 responses returned. This is a response rate of 63%.

Shotgun Season

The kill during the shotgun seasons

was about the same as was recorded in 2001 (Table 1.2). This was despite 4% fewer licenses being issued. Success rates were a little higher than in 2001, especially for hunters with free landowner licenses. This year was the first year that landowners or tenants could obtain up to 2 antlerless licenses for their land. Just over 4,000 of these reduced price licenses were issued.

Antlered bucks made up about 46% of the total kill, while does made up 42% of the kill. The rest were buck fawns.

There were an estimated 67,955 hunters (paid licenses only) in the field during the first season and they killed 47,344 deer, while 44,731 hunters tagged 27,498 deer during the second season. This translates to a 70% success rate for first season hunters and 63% for second season hunters. Antlered deer made up the largest proportion (53%) of the kill during the first season while does made up the largest proportion (52%) of the deer tagged during the second season.

Hunting pressure (Fig. 1.1) was generally higher in most counties during the first season. About 60% of the hunters with paid licenses hunted during the first season. Highest hunter numbers were in eastern and southern Iowa during both seasons.

Deer kill (Fig. 1.2) was highest in northeast and southeast Iowa during the first season and in the eastern parts of the state during the second season.

Success rates (Fig. 1.3) were good across most of the state in both seasons. Hunters in almost all counties had success rates greater than 60% especially during the first season.

Does made up less than 40% of the kill in most counties during the first season (Fig. 1.4). However does made up over 50% of the harvest in most counties during the second season.

First season hunters averaged 2.8 days in the field, while second season hunters averaged 4.0 days in the field.

Although the lack of precision of the county estimates (Table 1.5 and 1.6) makes it difficult to evaluate the kill in individual counties and determine whether management objectives are being met, it is possible to make some generalizations at a larger scale. Overall, regulations appear to be very effective in allowing more deer to be taken in southern and eastern Iowa (Fig. 1.5). However the doe harvest (Fig. 1.6) is still below 50% in most counties.

Bonus January Season

A special January season was held in 22 counties in southern Iowa to help reduce deer numbers. A total of 8,345 licenses were issued, which is more than a 70% increase from 2001 when only 11 counties were open. While 55% of the hunters who purchased one of these licenses reported that they actually tagged a deer only 16% of those with free licenses reported that they used them.

The kill during this season increased the total kill by 9% and doe kill by 17% in these 22 counties. An estimated 82% of the deer taken were does, 14% were buck fawns and 4% were bucks that had shed their antlers. This increased the number of adult bucks taken in the 22 counties by less than 1%.

Archery

A record number of deer were taken by archers in 2002. The reported harvest of 20,703 was 10% higher than the previous record kill reported in 2001 (Table 1.4). An increase in success rates and hunters purchasing extra antlerless licenses were the main reason for the increase since the number of regular archery licenses issued and the number of hunters both declined from 2001. Success rates on the regular

archery licenses went from 37% in 2001 to 39% in 2002 (Table 1.7). Hunters reported that 70% of the antlerless licenses were used to tag a deer.

Sixty six percent of the deer taken by archers were male and nearly 60% were antlered bucks. Archers averaged about 17 days in the field in 2002. The average archer hunted 46 days to bag a deer.

Muzzleloader

Kill during the early muzzleloader season was just over 10% higher than reported in 2001. Hunter numbers were about the same as in 2001 but success rates were slightly higher. About 56% of hunters reported that they tagged a deer. Bucks made up 65% of the kill, with antlered bucks making up about 52% of the kill (Table 1.8). Hunters averaged about 4.2 days in the field.

The kill during the late muzzleloader season was 6% higher than in 2001. The main reason was an increase in the number of licenses that were issued. Most of the increase was due to the extra antlerless licenses that were available in all 99 counties. About 27% of the deer killed during the late muzzleloader season were antlered bucks. Hunters averaged about 6 days in the field.

Nonresidents

Of the 5,979 any-sex licenses issued, 3,191 or 53% went to hunters during the shotgun seasons, 2,127 or 36% to bowhunters, and 671 or 11% to late season muzzleloader hunters. An additional 1,030 antlerless licenses were issued. Six hundred sixty of these went to hunters during the shotgun season, 327 went to bowhunters and 43 went to late season muzzleloader hunters. About 67% of the shotgun hunters, 45% of the muzzleloader hunters and 41% of the archers were successful in tagging a deer. Nonresidents spent an average of 5.6 days in the field. Nearly 60% of the nonresidents reported that they were hunting with an Iowa resident.

Special Youth/Disabled Hunter Season

The number of licenses issued for this special season was slightly lower in 2002 than in 2001. The hunt is restricted to youths 12 through 15 years old or hunters who are disabled. The young hunter had to pass a hunter safety course and had to be accompanied into the field by an adult. Only 43 licenses or roughly 1% of the total were issued to disabled hunters. Hunter numbers were down by about 7%.

About 45% of the hunters were successful in bagging a deer. Slightly more than 60% of the deer taken were antlerless deer. These hunters spent an average of 4.3 days in the field.

Special Deer Management Zones

Special management hunts were conducted at 19 locations in 2002 (Table 1.10) which is 1 more than in 2001. These hunts are designed to meet the management needs of areas such as state and county parks and urban areas that are not suitable to be opened to general regulations. Most deer taken were antlerless and deer tagged did not count against the hunters regular bag limit. Most hunts were very successful in removing deer in these problem areas. An additional 1,857 tags were issued for depredation situations where hunters killed another 1,150 deer. This is about the same as in 2001.

Hunter Opinion

Due to changes in how post season post card survey was conducted hunters

were not asked to rate the quality of their hunt or the number of deer in the area where they hunt for the first time in 12 years.

Population Surveys

Three techniques are used to monitor deer population trends in Iowa. These are 1) an aerial survey conducted in January - March after the deer seasons are complete, 2) a spotlight survey conducted in April, and 3) a record of the number of deer killed on Iowa's rural highways throughout the year. All of these surveys correlate well with the reported harvest over the last 15 years and appear to provide reliable long-term trend indices. However, none of these surveys can be considered absolutely reliable predictors of annual changes in the population because of high variability in the survey conditions.

Deer populations for the state as a whole appear to have increased during the past 3 to 4 years (Fig 1.7). All 3 surveys are higher than they were during the last time deer numbers peaked in the late 1980's (Table 1.9).

The aerial survey conducted after the 2002 hunting season (Jan-Mar 2003) was up about 20%. Conditions for this survey were fairly good in most areas and somewhat better than in 2002. Aerial counts have stayed pretty much they same over the past 3 years.

The number of deer killed on rural highways decreased by about 11% in 2002. When this number is adjusted for the increase in vehicle miles driven (kill per billion miles), the decrease was 14%. In general the number of roadkills have increased over the past 3 years.

The number of deer seen per 25 mile route on the spotlight survey increased by about 15% in 2003. The mean number of deer reported per route is over 60% higher than those recorded in the late 1980's. However part of this increase was due to a change in the placement of the routes in 1994 and 1995. The trend over the past three years is up as well.

Outlook for 2003

Hunters will see some changes in the 2003 deer seasons. Regulations will again allow all hunters to take deer of either sex in both shotgun and muzzleloader seasons in all counties. These regulations may decrease the number of hunters that hunt during the second season.

The biggest change for 2003 is designed to encourage hunters to kill more antlerless deer. Antlerless licenses will be available in every county for the third year and the antlerless quota for each county in 2003 is two to three times higher than in 2002. If hunters buy all of the antlerless licenses a total of 53,000 antlerless licenses could be issued for 2003 which is 31,000 more than in 2002.

To allow more hunters to use these licenses, hunters in both the first shotgun season and the early muzzleloader season will be allowed to obtain one antlerless license for the first time ever. Also all 99 counties will be open during the bonus January season. The objective of these regulations is to bring deer numbers back to the 1995-96 target level.

White-tailed Deer
(doe)

Table 1.1 The dates, hours and zones for shotgun, archery and muzzleloader seasons (1953-present).
(Year summaries prior to the first year given are archived at http://www.iowadnr.com/wildlife/)

		Shotgun		Archery		Muzzleloader	
Year	Zones	Dates	Hours	Dates	Hours	Dates	Hours
1983	1-10	Dec 3-6	"	Oct 8-Dec 2	"		
1983	1-10	Dec 10-16	"				
1984	1-10	Dec 1-4	"	Oct 6-Nov 30	"	Dec 15-21	Sunrise to
1984	1-10	Dec 8-14	"				Sunset
1985	1-10	Dec 7-11	"	Oct 12-Dec 6	"	Dec 21-27	"
1985	1-10	Dec 14-20	"				
1986	1-10	Dec 6-10	"	Oct 11-Dec 5	"	Oct 11-17	1/2 hr before
1986	1-10	Dec 13-19	"			Dec 20-Jan 4	sunrise to
1987	1-10	Dec 5-9	"	Oct 1-Dec 4 &	"	Oct 10-18	1/2 hr after
1987	1-10	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 10	sunset
1988	1-10	Dec 3-7	"	Oct 1-Dec 2 &	"	Oct 15-23	"
1988	1-10	Dec 10-18	"	Dec 19-Jan 10		Dec 19-Jan 10	"
1989	1-10	Dec 2-6	"	Oct 1-Dec 1 &	"	Oct 14-Oct 22	"
1989	1-10	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 10	"
1990	1-10	Dec 1-5	"	Oct 1-Nov 30 &	"	Oct 13- Oct 21	"
1990	1-10	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 10	"
1991	1-10	Dec 7-11	"	Oct 1-Dec 6 &	"	Oct 12- Oct 20	"
1991	1-10	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 10	"
1992	1-10	Dec 5-9	"	Oct 1-Dec 4&	"	Oct 10-Oct 18	"
1992	1-10	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 10	"
1993	2	Dec 4-8	"	Oct 1-Dec 3&	"	Oct 9-Oct 17	"
1993	2	Dec 11-19	"	Dec 20-Jan 10		Dec 20-Jan 10	"
1994	Statewide	Dec 3-7	"	Oct 1-Dec 2&	"	Oct 15-Oct 23	"
1994	Statewide	Dec 10-18	"	Dec 19-Jan 10		Dec 19-Jan 10	"
1995	Statewide f	Dec 2-6	"	Oct 1-Dec 1&	"	Oct 14-Oct 22	"
1995	Statewide	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 10	"
1996	Statewide g	Dec 7-11	"	Oct 1-Dec 6&	"	Oct 12-Oct 20	"
1996	Statewide	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 10	"
1997	Statewide h	Dec 6-10	"	Oct 1-Dec 5&	"	Oct 11-Oct 18	"
1997	Statewide	Dec 13-21	"	Dec 22-Jan 10		Dec 22-Jan 10	"
1998	Statewide h	Dec 5-9	"	Oct 1-Dec 4&	"	Oct 17-Oct 25	"
1998	Statewide	Dec 12-20	"	Dec 21-Jan 10		Dec 21-Jan 10	"
1999	Statewide h	Dec 4-8	"	Oct 1-Dec 3&	"	Oct 16-Oct 24	"
1999	Statewide	Dec 11-19	"	Dec 20-Jan 10		Dec 20-Jan 10	"
2000	Statewide I	Dec 2-6	"	Oct 1-Dec 1&	"	Oct 14-Oct 22	"
2000	Statewide	Dec 9-17	"	Dec 18-Jan 10		Dec 18-Jan 10	"
2001	Statewide h	Dec 1-5	"	Oct 1-Nov 30 &	"	Oct 13- Oct 21	"
2001	Statewide	Dec 8-16	"	Dec 17-Jan 10		Dec 17-Jan 10	"
2002	Statewide h	Dec 7-11	"	Oct 1-Dec 6 &	"	Oct 11- Oct 19	"
2002	Statewide	Dec 14-22	"	Dec 23-Jan 10		Dec 23-Jan 10	"

f - 34 counties were any-sex during 1st season and 74 were bucks only during first 7 days of the 2nd season

g - 35 counties were any-sex during 1st season and 26 were bucks only during the first 5 days of the 2nd season

h - all counties were any-sex during both seasons

i - 17 counties were buck-only during first 3 days of first season

Table 1.2 A summary of the number of licenses issued, the number of hunters, the number of deer harvested and success rates for the 2002-2003 season.

Season	License Type	Licenses Issued	Number of Hunters	Harvest	Success Rate
REGULAR GUN					
Paid	Season 1	68,926	67,955	47,344	70%
	Season 2	44,731	43,736	27,498	63%
	Antlerless	5,316	3,870	3,098	
	Nonresident	3,851	3,712	2,564	69%
	Total	122,824 (-7%)	119,273 (-7%)	80,504 (-5%)	
Landowner	Any sex	38,843	31,990	17,345	54%
	Antlerless	4,146	2,407	1,587	
	Total	42,989 (+8%)	34,397 (+13%)	18,932 (+28%)	
GUN SEASON TOTAL		**165,813 (-4%)**	**153,670 (-4%)**	**99,436 (-1%)**	**65%**
MUZZLELOADER					
Early	Paid	7,501	7,128	4,019	56%
	Landowner	2,306	1,949	1,072	55%
	Total	9,807 (-2%)	9,077 (+1%)	5,091 (+11%)	56%
Late	Paid	10,459	9,223	4,098	44%
	Antlerless	5,524	4,225	2,648	
	Landowner	2,782	1,783	728	41%
	Nonresident	714	661	298	45%
	Total	19,479 (+4%)	15,892 (-4%)	7,772 (+6%)	49%
MUZZLELOADER TOTAL		**29,286 (+2%)**	**24,969 (+3%)**	**12,863 (+8%)**	**52%**
JANUARY SEASON					
	Paid	4,078	2,962	2,240	76%
	Landowner	4,267	1,779	686	39%
	Total	**8,345 (+72%)**	**4,741 (+69%)**	**2,926 (+90%)**	**62%**
YOUTH	Paid	3,233	3,113	1,411	45%
	Landowner	214	180	50	28%
	Disabled	43	33	12	
	Total	**3,490 (-6%)**	**3,326 (-7%)**	**1,473 (-8%)**	**44%**
ARCHERY	Paid	36,324	31,405	12,382	39%
	Antlerless	7,752	5,720	5,560	
	Landowner	5,004	3,804	1,876	49%
	Nonresident	2,454	2,312	885	38%
ARCHERY TOTAL		**51,534 (-1%)**	**43,241 (-11%)**	**20,703 (+10%)**	**48%**
TOTAL b		**265,185 (NC)**	**234,997 (-4%)**	**140,490 (+3%)**	

a - the numbers in parentheses are the percent change from 2001-2002, NC = < 0.5%

b - total include licensed hunters and kill from hunts in special deer management zones and depredation licenses

Table 1.3 Historical data on deer license issue by license type (1953 - present). Totals include special IAAP licenses (1985-1990), 4074 special late season AS licenses for zone 6 (1985), nonresidents, special management unit hunts and special youth licenses.

(Year summaries prior to the first year given are archived at http://www.iowadnr.com/wildlife/)

	Regular Gun			Muzzleloader				Grand
Year	Paid	Landowner	Total	Early	Late	Total	Archery	Total
1983	75,918	15,067	90,985				19,945	110,930
1984	79,697	16,777	96,474		1,644	1,644	21,648	119,766
1985	82,218	20,674	102,892		1,522	1,522	22,830	127,244
1986	84,858	25,432	110,290	2,246	1,973	4,219	26,521	141,030
1987	91,804	26,780	118,584	3,091	2,710	5,801	28,910	153,295
1988	101,338	28,002	129,340	3,565	3,618	7,183	30,020	166,543
1989	107,171	33,798	140,969	5,995	12,201	18,196	34,745	194,611
1990	106,781	27,106	133,887	6,602	15,949	22,551	35,217	192,551
1991	100,587	30,834	131,421	7,064	11,458	18,522	33,359	184,041
1992	100,461	30,084	130,545	8,280	10,978	19,315	34,165	186,436
1993	96,577	21,887	118,464	7,306	8,926	16,232	30,938	168,017
1994	102,773	22,809	125,582	8,113	9,737	17,850	34,222	180,525
1995	101,053	18,157	119,210	7,193	8,059	15,463	34,434	177,441
1996	106,746	28,080	134,826	8,806	11,820	20,626	36,351	202,834
1997	109,169	24,423	133,592	8,979	15,049	24,028	37,106	211,118
1998	114,358	25,960	140,318	9,504	12,721	22,225	39,506	223,419
1999	113,695	31,196	144,891	10,246	13,260	23,506	43,687	233,690
2000	113,728	32,116	145,844	10,279	15,242	25,521	44,658	229,800
2001	128,041	38,820	166,861	10,037	18,751	28,788	52,002	265,939
2002	122,824	42,989	165,813	9,807	19,479	29,286	51,534	265,185

a - license not required

Table 1.4 Historical data on deer harvest by license type (1953-present). Totals include IAAP harvest, special management unit hunts, nonresidents and youth.

n are archived at http://www.iowadnr.com/wildlife/)

	Regular Gun			Muzzleloader				Grand
Year	Paid	Landowner	Total	Early	Late	Total	Archery	Total
1983	27,078	3,297	30,375				5,244	35,619
1984	29,912	3,537	33,449		307	307	5,599	39,355
1985	32,613	5,344	37,957		457	457	5,805	44,219
1986	41,352	10,378	51,730	349	728	1,077	9,895	62,702
1987	53,230	10,270	63,500	1,509	1,027	2,536	9,722	75,758
1988	66,757	13,298	80,055	1,835	1,294	3,129	9,897	93,756
1989	67,606	12,963	80,569	2,619	3,715	6,334	11,857	99,712
1990	69,101	9,095	78,196	2,819	5,884	8,703	10,146	98,002
1991	56,811	11,575	68,386	3,120	2,766	5,886	8,807	83,635
1992	50,822	10,453	61,275	3,316	3,231	6,564	8,814	77,684
1993	52,624	8,354	60,978	2,219	2,883	5,102	9,291	76,430
1994	59,054	8,735	67,789	2,610	3,196	5,806	12,040	87,231
1995	65,206	7,917	73,123	2,831	3,408	6,363	13,372	97,256
1996	71,577	10,896	82,473	2,895	4,558	7,453	12,314	107,632
1997	77,169	10,588	87,757	4,062	5,508	9,570	14,313	118,404
1998	73,165	9,989	83,154	4,448	5,343	9,791	12,302	112,608
1999	74,362	12,966	87,328	5,277	5,329	10,606	15,266	121,635
2000	77,743	13,189	90,932	4,585	5,936	10,521	17,727	126,535
2001	82,721	14,801	97,522	4,593	7,320	11,913	18,798	136,655
2002	77,940	17,345	95,285	5,091	7,772	12,863	20,703	140,490

Table 1.5 Harvest estimates and ranking for each season by county for total kill during the 2002-2003 deer season.

	Harvest							Rank						
	Paid	Muzzleloader				Non-			Muzzleloader				Non-	
County	Shotgun	Early	Late	Archery	Youth	resident	Total	Shotgun	Early	Late	Archery	Youth	resident	Total
Clayton	3,707	163	223	757	28	102	5,739	1	1	1	1	18	7	1
Van Buren	1,393	112	167	390	57	239	3,483	10	3	5	7	1	1	2
Allamakee	2,095	72	46	325	5	193	3,130	2	15	60	12	60	2	3
Jackson	1,991	55	101	376	29	76	3,076	3	29	20	8	15	13	4
Johnson	1,606	79	139	519	27	46	2,785	6	11	10	3	22	26	5
Fayette	1,793	73	94	289	36	70	2,758	4	14	24	19	9	15	6
Linn	1,424	103	183	632	14	12	2,737	9	5	3	2	44	69	7
Davis	1,359	62	148	226	31	81	2,656	12	21	6	30	14	10	8
Jones	1,536	65	139	354	25	46	2,611	8	19	11	10	24	27	9
Lee	1,246	101	83	305	25	46	2,571	15	6	30	16	25	28	10
Dubuque	1,538	114	68	409	42	36	2,538	7	2	40	6	3	39	11
Winneshiek	1,607	45	126	186	14	40	2,368	5	38	12	40	42	36	12
Iowa	1,314	68	120	310	19	19	2,326	13	16	14	14	37	55	13
Marion	1,385	60	87	449	52	40	2,310	11	24	28	5	2	37	14
Washington	1,295	54	186	290	37	44	2,307	14	30	2	18	7	32	15
Tama	1,169	42	148	198	32	21	2,115	17	41	7	37	12	51	16
Clinton	1,102	65	82	285	14	26	2,047	19	20	31	20	43	46	17
Cedar	1,139	86	96	236	5	5	2,035	18	10	22	27	67	83	18
Butler	1,084	37	82	251	10	14	1,916	21	47	32	26	51	67	19
Warren	1,186	62	102	150	23	35	1,883	16	22	19	51	29	41	20
Madison	938	12	67	312	21	69	1,852	26	85	41	13	34	16	21
Monroe	929	37	118	275	17	84	1,824	27	46	15	24	41	9	22
Pottawattamie	924	61	178	367	5	8	1,795	28	23	4	9	65	76	23
Jasper	901	87	93	277	27	30	1,793	31	8	26	23	23	43	24
Guthrie	1,102	25	104	211	22	44	1,762	20	54	18	31	31	33	25
Appanoose	898	47	143	171	1	176	1,735	33	35	8	45	82	3	26
Muscatine	885	87	59	338	28	46	1,735	35	9	49	11	19	29	27
Henry	900	43	39	278	0	57	1,733	32	40	69	22	89	22	28
Taylor	700	9	54	155	17	136	1,733	50	90	51	47	40	5	29
Des Moines	1,082	56	52	155	29	30	1,726	22	28	54	46	16	44	30
Delaware	846	66	87	281	35	19	1,702	37	17	29	21	10	56	31
Jefferson	1,040	6	38	234	0	79	1,692	24	97	72	28	84	12	32
Mahaska	984	34	141	77	19	25	1,579	25	49	9	76	36	48	33
Chickasaw	901	111	78	207	23	20	1,560	30	4	35	33	30	52	34
Lucas	759	18	33	293	27	89	1,552	44	73	78	17	21	8	35
Ringgold	695	25	50	140	0	124	1,538	52	56	58	54	83	6	36
Benton	915	24	82	115	41	3	1,523	29	59	33	64	4	89	37
Louisa	893	18	123	154	4	12	1,517	34	72	13	48	76	70	38
Decatur	745	48	77	110	9	81	1,481	47	34	36	65	53	11	39
Keokuk	1,045	29	98	79	0	66	1,476	23	51	21	75	86	18	40
Wayne	807	25	60	178	9	140	1,453	39	55	48	42	52	4	41
Hardin	763	95	116	149	38	26	1,429	43	7	17	52	5	47	42
Scott	657	52	51	492	13	0	1,418	56	32	56	4	49	95	43

Table 1.5 Harvest estimates and ranking for each season by county for total kill during the 2002-2003 deer season.

	Harvest							Rank						
	Paid	Muzzleloader				Non-			Muzzleloader				Non-	
County	Shotgun	Early	Late	Archery	Youth	resident	Total	Shotgun	Early	Late	Archery	Youth	resident	Total
Bremer	765	74	19	200	14	8	1,374	42	13	87	35	45	77	44
Marshall	749	56	117	307	4	36	1,345	46	27	16	15	71	40	45
Adair	650	38	67	177	0	46	1,338	57	45	42	43	90	30	46
Poweshiek	750	17	94	101	25	17	1,320	45	74	25	68	26	61	47
Woodbury	870	66	31	265	22	9	1,316	36	18	79	25	33	74	48
Harrison	696	22	91	52	21	29	1,305	51	64	27	86	35	45	49
Floyd	793	58	69	89	7	49	1,282	40	26	39	72	58	24	50
Union	725	9	46	66	0	61	1,278	48	91	61	81	87	19	51
Wapello	660	59	41	147	8	44	1,273	55	25	66	53	54	34	52
Cherokee	790	37	51	179	4	5	1,211	41	48	57	41	79	84	53
Clarke	639	19	17	130	0	60	1,205	58	71	92	59	88	20	54
Adams	525	12	82	76	6	49	1,157	66	84	34	77	59	25	55
Franklin	506	26	69	209	5	15	1,109	67	53	38	32	64	63	56
Buchanan	701	41	17	123	22	15	1,068	49	42	94	61	32	64	57
Howard	666	38	72	135	37	20	1,062	54	44	37	55	8	53	58
Boone	489	46	36	199	38	20	1,057	70	37	74	36	6	54	59
Crawford	825	16	54	58	32	12	1,054	38	75	52	84	13	71	60
Black Hawk	539	54	61	174	24	15	1,049	65	31	47	44	27	65	61
Page	554	23	34	134	5	46	1,046	63	63	77	56	63	31	62
Mitchell	611	12	31	60	5	56	1,031	60	86	80	83	62	23	63
Montgomery	670	47	37	26	13	59	1,014	53	36	73	92	48	21	64
Monona	615	27	42	69	0	75	1,001	59	52	65	80	85	14	65
Clay	497	24	58	233	8	41	996	69	61	50	29	55	35	66
Cass	583	24	40	122	5	68	967	61	62	68	62	61	17	67
Mills	412	15	95	151	0	23	962	77	77	23	50	93	50	68
Webster	552	79	52	117	28	18	905	64	12	55	63	20	58	69
Polk	504	50	18	204	4	19	901	68	33	90	34	73	57	70
Dallas	557	19	35	131	14	3	848	62	69	75	58	47	90	71
Sac	461	15	19	99	4	5	842	74	81	89	69	80	85	72
Story	363	24	62	196	5	6	755	81	60	45	38	66	79	73
Shelby	478	25	49	54	0	5	751	72	57	59	85	98	86	74
Cerro Gordo	480	16	39	89	4	15	748	71	76	70	73	75	66	75
Greene	422	40	53	96	0	9	748	75	43	53	70	96	75	76
Plymouth	381	6	61	189	14	6	742	80	96	46	39	46	80	77
Fremont	334	15	45	133	0	40	702	83	79	63	57	91	38	78
Kossuth	464	15	46	45	4	6	634	73	78	62	89	77	81	79
Palo Alto	406	9	39	71	0	12	620	78	92	71	78	95	72	80
Humboldt	338	12	17	129	8	12	589	82	88	93	60	56	73	81
O'Brien	331	15	41	48	29	3	575	84	80	67	87	17	91	82
Lyon	402	10	12	15	4	18	552	79	89	96	95	74	59	83
Hamilton	281	22	16	153	19	5	541	87	67	95	49	39	87	84
Buena Vista	414	9	20	3	5	3	508	76	95	86	99	68	92	85
Calhoun	225	9	22	101	33	0	491	94	94	83	67	11	96	86
Wright	260	25	45	69	12	18	471	90	58	64	79	50	60	87
Worth	298	9	24	94	0	5	470	85	93	82	71	99	88	88
Emmet	260	22	19	109	4	32	465	91	66	88	66	72	42	89
Audubon	241	3	65	37	0	24	462	93	98	44	91	92	49	90
Dickinson	212	22	67	63	19	17	450	95	65	43	82	38	62	91
Carroll	274	21	35	46	0	14	446	89	68	76	88	94	68	92
Sioux	280	12	20	87	24	2	428	88	87	84	74	28	94	93
Hancock	284	31	18	15	5	0	396	86	50	91	94	69	97	94
Ida	259	0	30	9	0	8	377	92	99	81	97	97	78	95
Winnebago	172	19	20	37	4	6	333	96	70	85	90	78	82	96
Pocahontas	166	15	11	17	2	0	296	98	82	97	93	81	98	97
Grundy	117	13	4	6	5	0	273	99	83	99	98	70	99	98
Osceola	166	44	10	13	8	3	263	97	39	98	96	57	93	99
Total	77,940	4,019	6,746	17,942	1,473	3,747	140,490							

Table 1.6 Harvest estimates by county for total kill during the 2002-2003 deer season.

County	Hunters	Antlered Bucks	Does	Button Bucks	Total	Percent of kill: Does	Percent of kill: Antlered Bucks	Hunters/ Sq. Mile	Kill/ Sq. Mile
Adair	2,177	602	594	142	1,338	44%	45%	3.8	2.4
Adams	1,964	412	674	71	1,157	58%	36%	4.6	2.7
Allamakee	5,206	1,655	1,144	331	3,130	37%	53%	8.2	4.9
Appanoose	3,232	710	790	235	1,735	46%	41%	6.2	3.3
Audubon	728	188	240	34	462	52%	41%	1.6	1.0
Benton	2,638	644	687	192	1,523	45%	42%	3.7	2.1
Black Hawk	2,248	496	443	110	1,049	42%	47%	4.0	1.8
Boone	2,145	396	576	85	1,057	54%	37%	3.7	1.8
Bremer	2,432	602	577	195	1,374	42%	44%	5.5	3.1
Buchanan	1,951	537	412	119	1,068	39%	50%	3.4	1.9
Buena Vista	1,022	252	248	8	508	49%	50%	1.8	0.9
Butler	2,935	749	822	345	1,916	43%	39%	5.0	3.3
Calhoun	841	245	199	47	491	41%	50%	1.5	0.9
Carroll	953	221	178	47	446	40%	50%	1.7	0.8
Cass	1,587	425	439	103	967	45%	44%	2.8	1.7
Cedar	3,434	948	823	264	2,035	40%	47%	5.9	3.5
Cerro Gordo	1,552	391	307	50	748	41%	52%	2.7	1.3
Cherokee	2,101	585	419	207	1,211	35%	48%	3.7	2.1
Chickasaw	2,441	687	702	171	1,560	45%	44%	4.8	3.1
Clarke	2,363	488	607	110	1,205	50%	40%	5.5	2.8
Clay	1,690	454	488	54	996	49%	46%	3.0	1.7
Clayton	8,416	2,967	2,338	434	5,739	41%	52%	10.8	7.4
Clinton	3,571	870	787	390	2,047	38%	43%	5.2	3.0
Crawford	1,640	498	473	83	1,054	45%	47%	2.3	1.5
Dallas	1,907	349	397	102	848	47%	41%	3.2	1.4
Davis	3,913	864	1,532	260	2,656	58%	33%	7.7	5.2
Decatur	2,800	576	685	220	1,481	46%	39%	5.3	2.8
Delaware	2,855	1,014	573	115	1,702	34%	60%	5.0	3.0
Des Moines	2,946	808	744	174	1,726	43%	47%	7.2	4.2
Dickinson	927	224	190	36	450	42%	50%	2.4	1.2
Dubuque	4,545	1,109	962	467	2,538	38%	44%	7.4	4.1
Emmet	993	232	200	33	465	43%	50%	2.5	1.2
Fayette	4,843	1,246	1,188	324	2,758	43%	45%	6.7	3.8
Floyd	1,988	691	510	81	1,282	40%	54%	4.0	2.5
Franklin	1,503	581	389	139	1,109	35%	52%	2.6	1.9
Fremont	1,212	382	276	44	702	39%	54%	2.3	1.3
Greene	1,500	272	346	130	748	46%	36%	2.6	1.3
Grundy	541	105	152	16	273	56%	38%	1.1	0.5
Guthrie	3,258	888	694	180	1,762	39%	50%	5.5	3.0
Hamilton	1,198	282	219	40	541	40%	52%	2.1	0.9
Hancock	780	200	170	26	396	43%	51%	1.4	0.7
Hardin	2,035	634	674	121	1,429	47%	44%	3.5	2.5
Harrison	2,441	572	625	108	1,305	48%	44%	3.5	1.9
Henry	3,214	610	871	252	1,733	50%	35%	7.3	3.9
Howard	1,831	448	528	86	1,062	50%	42%	3.9	2.3
Humboldt	1,075	354	211	24	589	36%	60%	2.5	1.4
Ida	642	176	151	50	377	40%	47%	1.5	0.9
Iowa	3,641	963	1,074	289	2,326	46%	41%	6.2	4.0
Jackson	4,935	1,212	1,438	426	3,076	47%	39%	7.7	4.8
Jasper	3,125	876	824	93	1,793	46%	49%	4.3	2.4
Jefferson	2,424	720	835	137	1,692	49%	43%	5.6	3.9
Johnson	4,716	1,180	1,290	315	2,785	46%	42%	7.6	4.5
Jones	4,076	1,079	1,197	335	2,611	46%	41%	7.0	4.5
Keokuk	2,463	712	580	184	1,476	39%	48%	4.3	2.5

Table 1.6 Harvest estimates by county for total kill during the 2002-2003 deer season.

County	Hunters	Antlered Bucks	Does	Button Bucks	Total	Percent of kill		Hunters/ Sq. Mile	Kill/ Sq. Mile
						Does	Antlered Bucks		
Kossuth	1,456	230	344	60	634	54%	36%	1.5	0.6
Lee	4,229	929	1,205	437	2,571	47%	36%	8.0	4.9
Linn	5,355	1,283	1,072	382	2,737	39%	47%	7.5	3.8
Louisa	2,546	462	857	198	1,517	56%	30%	6.3	3.8
Lucas	2,701	719	653	180	1,552	42%	46%	6.2	3.6
Lyon	1,144	314	211	27	552	38%	57%	1.9	0.9
Madison	3,544	969	735	148	1,852	40%	52%	6.3	3.3
Mahaska	2,529	632	783	164	1,579	50%	40%	4.4	2.8
Marion	3,989	1,103	961	246	2,310	42%	48%	7.0	4.1
Marshall	2,226	758	430	157	1,345	32%	56%	3.9	2.3
Mills	1,517	570	320	72	962	33%	59%	3.4	2.2
Mitchell	1,661	452	458	121	1,031	44%	44%	3.6	2.2
Monona	1,828	466	493	42	1,001	49%	47%	2.6	1.4
Monroe	2,903	795	802	227	1,824	44%	44%	6.7	4.2
Montgomery	1,464	503	331	180	1,014	33%	50%	3.5	2.4
Muscatine	3,061	766	782	187	1,735	45%	44%	6.9	3.9
O'Brien	1,187	340	197	38	575	34%	59%	2.1	1.0
Osceola	584	138	95	30	263	36%	52%	1.5	0.7
Page	1,684	402	477	167	1,046	46%	38%	3.1	2.0
Palo Alto	1,082	327	269	24	620	43%	53%	1.9	1.1
Plymouth	1,563	411	301	30	742	41%	55%	1.8	0.9
Pocahontas	767	183	72	41	296	24%	62%	1.3	0.5
Polk	2,527	489	343	69	901	38%	54%	4.3	1.5
Pottawattamie	3,328	1,047	544	204	1,795	30%	58%	3.5	1.9
Poweshiek	2,318	644	624	52	1,320	47%	49%	3.9	2.2
Ringgold	2,609	537	840	161	1,538	55%	35%	4.8	2.9
Sac	1,424	479	293	70	842	35%	57%	2.5	1.5
Scott	2,596	688	554	176	1,418	39%	49%	5.7	3.1
Shelby	1,352	398	265	88	751	35%	53%	2.3	1.3
Sioux	1,037	249	128	51	428	30%	58%	1.4	0.6
Story	1,369	352	379	24	755	50%	47%	2.4	1.3
Tama	3,351	920	931	264	2,115	44%	43%	4.7	2.9
Taylor	2,566	645	867	221	1,733	50%	37%	4.9	3.3
Union	2,104	448	602	228	1,278	47%	35%	5.0	3.0
Van Buren	5,285	1,228	1,781	474	3,483	51%	35%	10.9	7.2
Wapello	2,549	494	615	164	1,273	48%	39%	5.8	2.9
Warren	3,823	876	736	271	1,883	39%	47%	6.7	3.3
Washington	3,751	764	1,321	222	2,307	57%	33%	6.6	4.1
Wayne	2,349	805	464	184	1,453	32%	55%	4.4	2.7
Webster	1,720	424	374	107	905	41%	47%	2.4	1.3
Winnebago	823	179	112	42	333	34%	54%	2.1	0.8
Winneshiek	4,157	1,134	914	320	2,368	39%	48%	6.0	3.4
Woodbury	2,630	502	629	185	1,316	48%	38%	3.0	1.5
Worth	1,017	200	230	40	470	49%	43%	2.5	1.2
Wright	1,207	232	198	41	471	42%	49%	2.1	0.8
Total	243,556	61,867	62,609	16,012	140,490	45%	44%	4.3	2.5

Table 1.7 A summary of archery season dates, hours, success rates and other information (1953 - present).
(Year summaries prior to the first year given are archived at http://www.iowadnr.com/wildlife/)

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
1983	Oct 8-Dec 2	1/2 hr	69	28	16	
1984	Oct 6-Nov 30	before	69	27	16	
1985	Oct 12-Dec 6	sunrise,	68	26	15	$ 20 fee.
1986	Oct 11-Dec 5	1/2 hr	72	38	17	Limit 1/Bow and 1/Gun
1987	Oct 1-Dec 4 &	after	68	35		Added late season.
	Dec 21-Jan 10	sunset.				
1988	Oct 1-Dec 2 &	"	71	35	16	
	Dec 19-Jan 10	"				
1989	Oct 1-Dec 1 &	"	73	36	20	Bonus 2nd tag for antlerless deer
	Dec 18-Jan 10	"				statewide
1990	Oct 1-Nov 30 &	"	65	32	19	Bonus tag for antlerless early or
	Dec 17-Jan 10	"				anysex late,statewide
1991	Oct 1-Dec 6 &	"	73	28	17	Bonus tag for antlerless deer available
	Dec 23-Jan 10	"				only in zones 3a,4a,5a and 6. $25 fee.
1992	Oct 1-Dec 4 &	"	69	28	15	Bonus tag for antlerless deer available
	Dec 21 -Jan 10	"				only in bonus antlerless zone if no gun tag.
1993	Oct 1-Dec 3 &	"	73	32	17	Bonus tag for antlerless deer available
	Dec 20-Jan 10	"				only in bonus antlerless zone if no gun tag.
1994	Oct 1-Dec 2&	"	77	37	16	Bonus tag for antlerless deer available
	Dec 19-Jan 10	"				only in bonus antlerless zone if no gun tag.
1995	Oct 1-Dec 1&	"	76	39	17	Bonus tag for antlerless deer available
	Dec 18-Jan 10	"				only in bonus antlerless zone if no gun tag.
1996	Oct 1-Dec 6&	"	78	37	16	Bonus tag for antlerless deer available
	Dec 23-Jan 10	"				only in bonus antlerless zone if no gun tag.
1997	Oct 1-Dec 5&	"	71	42	17	Bonus tag for antlerless deer available only in
	Dec 22-Jan 10	"				bonus antlerless zone. Could get firearm license also.
1998	Oct 1-Dec 4&	"	76	34	15	Bonus tag for antlerless deer available only in
	Dec 21-Jan 10	"				bonus antlerless zone. Could get firearm license also.
1999	Oct 1-Dec 3&	"	79	37	16	Bonus tag for antlerless deer available only in
	Dec 20-Jan 10	"				bonus antlerless zone. Could get firearm license also.
2000	Oct 1-Dec 1&	"	80	44	17	Bonus tag for antlerless deer available only in
	Dec 18-Jan 10	"				bonus antlerless zone. Could get firearm license also.
2001	Oct 1-Nov 30&	"	75	37	17	Bonus tag for antlerless deer available in every county.
	Dec 17-Jan 10	"				Could get firearm license also.
2002	Oct 1-Dec 6 &	"	66	39	17	Bonus tag for antlerless deer available in every county.
	Dec 23-Jan 10	"				Could get firearm license also.

Table 1.8 A summary of muzzleloader season dates, hours, success rates and other information (1984 - present).

Year	Dates	Hours	Percent Bucks in Harvest	Success Rate	Mean Days/Hunter	General Comments
1984	Dec 15-21	Sunrise to Sunset	45	22	6	1500 A-S Quota. $15 fee.
1985	Dec 21-27	"	44	34	4	2000 A-S Quota. $20 fee.
1986	Oct 11-17	1/2 hr before	100	17	4	2500 B-O Quota.
	Dec 20-Jan 4	sunrise to	43	40	6	Unlimited A-S Quota.
1987	Oct 10-18	1/2 hr after	55	52	8	3000 A-S Quota
	Dec 21-Jan 10	sunset	46	42	6	Unlimited A-S Quota.
1988	Oct 15-23	"	55	55	4	3500 A-S Quota
	Dec 19-Jan 10	"	41	39	6	Unlimited A-S Quota.
1989	Oct 14-22	"	55	49	5	5000 A-S Quota
	Dec 18-Jan 10	"	28	39	9	Unlimited A-S Quota. Could hunt during shotgun & late muzzleloader seasons.
1990	Oct 13-21	"	53	46	5	5000 A-S Quota
	Dec 17 -Jan 10	"	50	45	8	Could hunt shotgun & late muzzleloader season.
1991	Oct 12-20	"	54	47	5	5000 A-S Quota
	Dec 23 -Jan 10	"	40	33	8	Could hunt shotgun & late muzzleloader season, but all 2nd tags valid for antlerless only in zones 3a,4a,5a&6.
1992	Oct 10-18	"	60	45	4	7500 Anysex license quota.
	Dec 21-Jan 10	"	40	36	8	All second licenses antlerless, Zones 4a,5a&6.
1993	Oct 9-17	"	71	34	5	7500 license quota, 65 counties buck-only.
	Dec 20-Jan 10	"	46	39	8	Antlerless in 14 counties, 35 counties buck-only.
1994	Oct 15-23	"	78	36	5	7500 license quota, 67 counties buck-only.
	Dec 19-Jan 10	"	52	39	8	Antlerless in 14 counties, 35 counties buck-only.
1995	Oct 14-22	"	73	43	5	7500 license quota, 69 counties buck-only.
	Dec 18-Jan 10	"	55	46	8	No antlerless tags, 29 counties modified buck-only.
1996	Oct 12-20	"	75	39	5	7500 license quota, 64 counties buck-only.
	Dec 23-Jan 10	"	49	46	7	Antlerless in 15 1/2 counties, 26 modified buck-only.
1997	Oct 11-19	"	55	62	4	7500 license quota, no counties buck only
	Dec 22-Jan 10	"	44	52	7	Antlerless in 19 1/2 counties, no counties buck-only.
1998	Oct 17-25	"	64	52	5	7500 license quota, no counties buck only
	Dec 21-Jan 10	"	54	50	7	Antlerless in 20 counties, no counties buck-only.
1999	Oct 16-24	"	60	57	4	7500 license quota, no counties buck only
	Dec 20-Jan 10	"	52	46	7	Antlerless in 21 counties, no counties buck-only.
2000	Oct 14-22	"	60	53	4	7500 license quota, 16 counties modified buck only
	Dec 18-Jan 10	"	50	47	7	Antlerless in 21 counties, no counties buck-only.
2001	Oct 13-21	"	54	53	4	7500 license quota, no counties buck only
	Dec 17-Jan 10	"	52	44	8	Antlerless in all counties, no counties buck-only.
2002	Oct 11- Oct 19	"	65	56	4	7500 license quota, no counties buck only
	Dec 23-Jan 10	"	41	46	6	Antlerless in all counties, no counties buck-only.

Table 1.9 The results of the deer population surveys (1976 - present).

	Spotlight Survey		Aerial Survey			Traffic Kill Per Billion Vehicle Mi.	
Year	Mean Count	Percent Change	Weighted Count a	Percent Change	Traffic Kill	Number	Percent Change
1976	-	-	-	-	2,537	225	-1%
1977	-	-	-	-	2,929	252	12%
1978	6.9	-	-	-	2,872	241	-4%
1979	6.8	-1%	-	-	3,005	259	7%
1980	7.1	4%	-	-	3,743	335	29%
1981	5.9	-17%	-	-	4,164	365	9%
1982	12.0	103%	-	-	4,805	412	13%
1983	13.3	11%	5,903	-	5,335	448	9%
1984	16.4	23%	6,387	8%	6,177	500	12%
1985	15.4	-6%	7,607	19%	5,925	495	-1%
1986	18.5	20%	9,790	29%	7,225	593	20%
1987	18.2	-2%	-	-	8,440	678	14%
1988	20.8	14%	10,289	5% b	9,248	707	4%
1989	26.8	29%	9,672	-6%	8,914	655	-7%
1990	24.0	-10%	7,070	-27%	8,799	607	-7%
1991	23.0	-4%	9,191	30%	8,428	590	-3%
1992	23.0	0%	8,235	-10%	9,135	616	4%
1993	30.0	30%	8,680	5%	9,576	624	1%
1994	25.8	-14%	10,483	21%	10,438	663	6%
1995	35.3	37%	10,877	4%	11,167	699	5%
1996	51.1	45%	12,051	11%	12,276	748	7%
1997	51.1	0%	13,902	15%	13,148	778	4%
1998	55.9	9%	12,651	-9%	12,427	714	-8%
1999	59.9	7%	14,928	18%	11,366	637	-11%
2000	57.2	-5%	15,375	3%	10,970	634	0%
2001	81.4	42%	15,793	3%	13,404	757	19%
2002	80.0	-2%	13,107	-17%	11,975	651	-14%
2003	92.5	16%	15,676	20%	-	-	

a - adjusted for missing counts

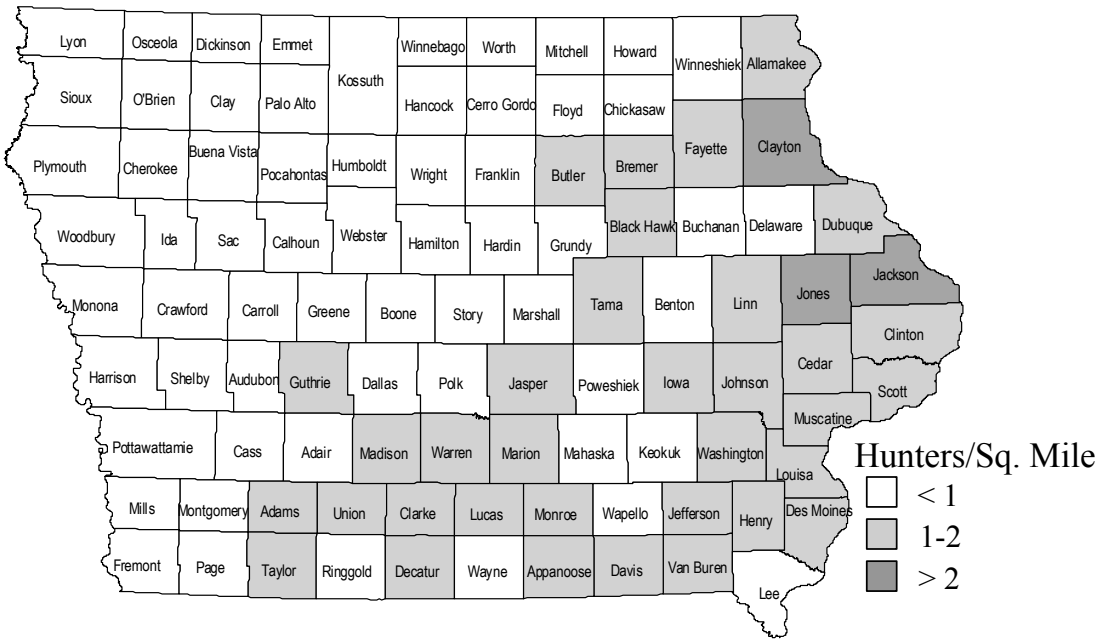
b - change form 1986 to 1988

Table 1.10 Results from controlled hunts in the special deer management zones for 2002-2003.

Area	Weapon	Licenses	Hunters	Harvest
Lake Panorama	Archery	150	114	67
Lake of Three Fires	Shotgun	45	43	37
Kent Park	Shotgun	50	48	27
Coralville, City of	Archery	300	150	74
Johnson County Zone	Archery & Firearm	400	316	191
Waterloo/Cedar Falls Zone	Archery	290	191	100
Smith Wildlife Area	Shotgun	15	4	1
Lake Manawa State Park	Archery	35	34	15
Lake Darling	Shotgun	80	20	6
Elk Rock State Park	Shotgun	50	50	42
Scott County Park	Shotgun	75	74	34
Linn County Zone	Archery & Firearm	500	407	231
Squaw Creek Park	Archery	125	100	41
Marion, City of	Archery	75	34	28
Backbone State Park	Shotgun	120	119	99
Polk County Zone	Archery & Firearm	500	297	195
Dubuque County Zone	Archery & Firearm	650	313	182
Iowa Army Amunition Plant	Archery & Firearm	1000	606	408
Iowa Army Amunition Plant (Perimeter Zone)	Archery & Firearm	400	273	161
Depredation & Shooting Permits	Archery & Firearm	1857	1857	1150
Total		6717	5050	3089

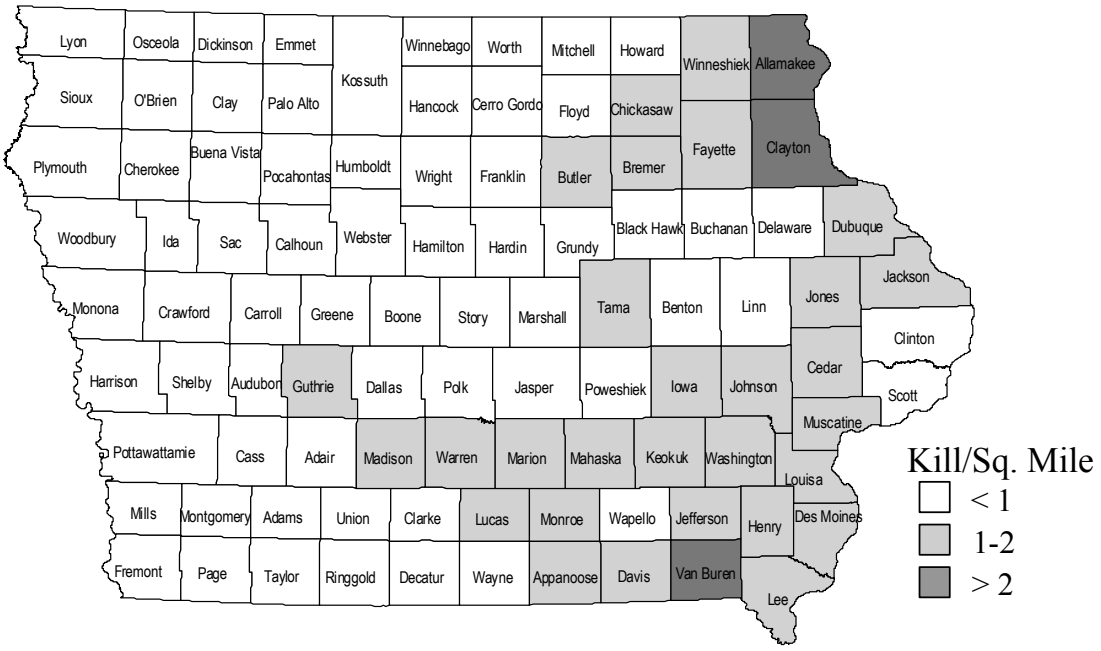
Fig 1.1 The average number of hunters/square mile in each county during the 2002 shotgun season. Hunters with free landowner/tenant licenses are not included since their licenses were valid for both seasons.

Season 1

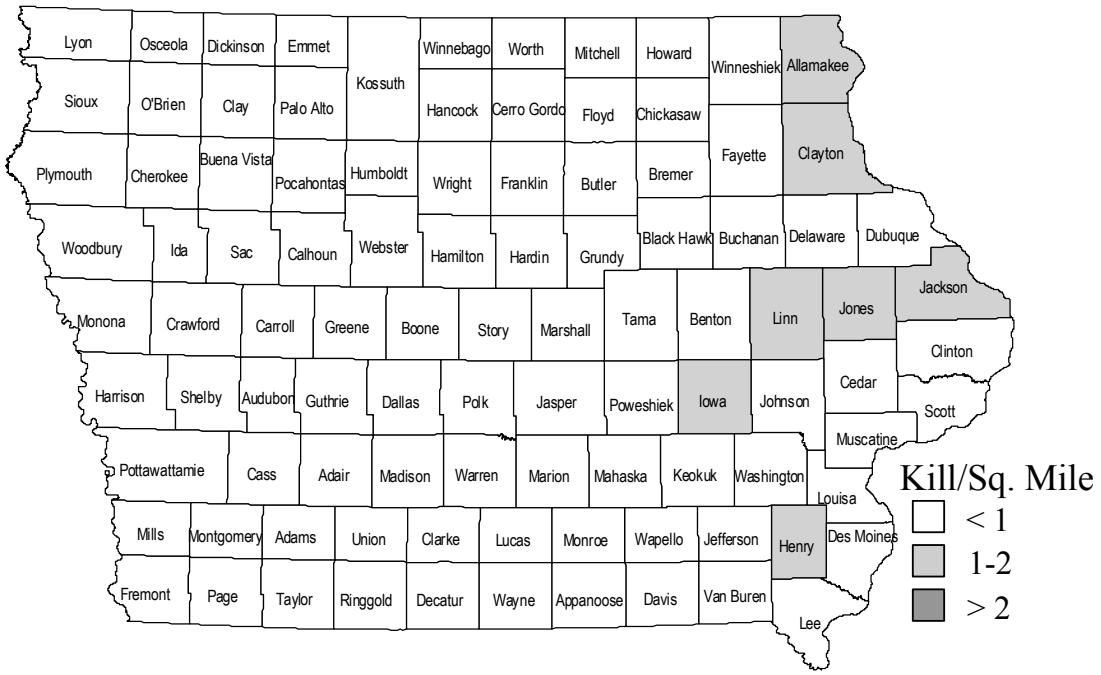


Season 2

Fig 1.2 The average number of deer killed/square mile in each county during the 2002 shotgun season. The kill by hunters with free landowner/tenant licenses was not included since their licenses were valid for both seasons.

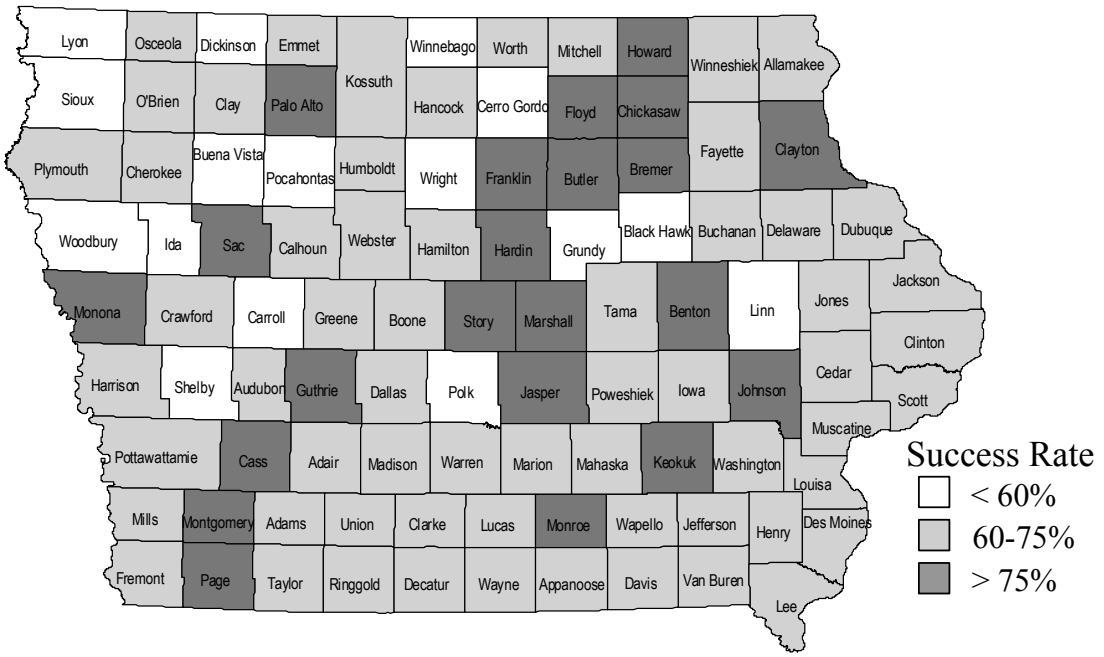


Season 1

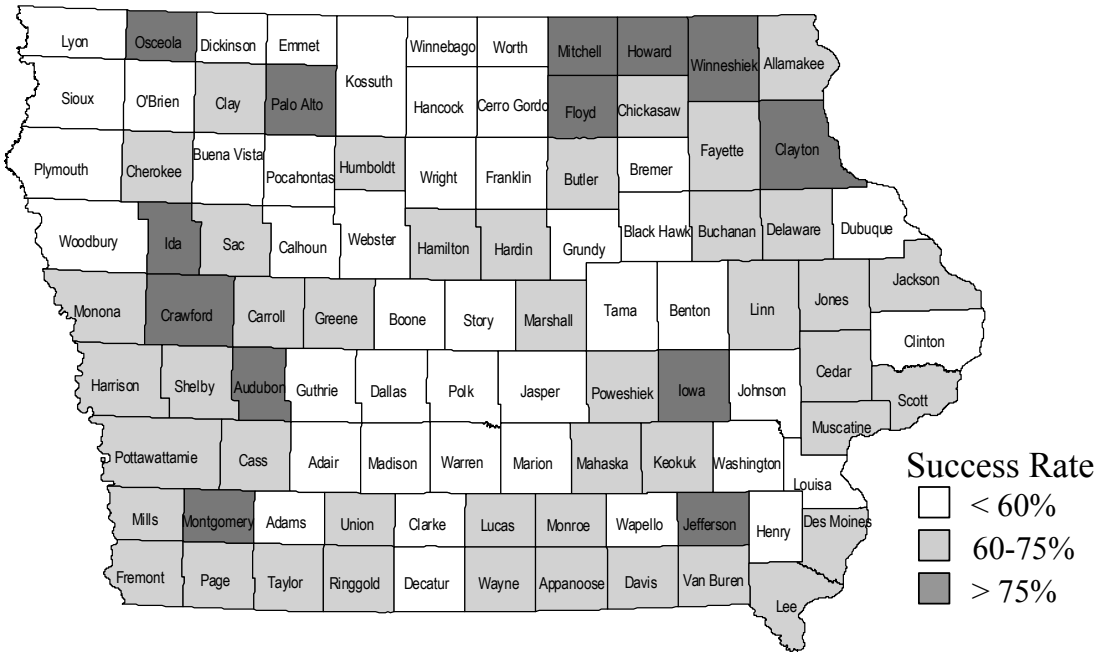


Season 2

Fig 1.3 The average success rate for hunters with paid licenses in each county during the 2002 shotgun season. Hunters with free landowner/tenant licenses are not included since their licenses were valid for both seasons.

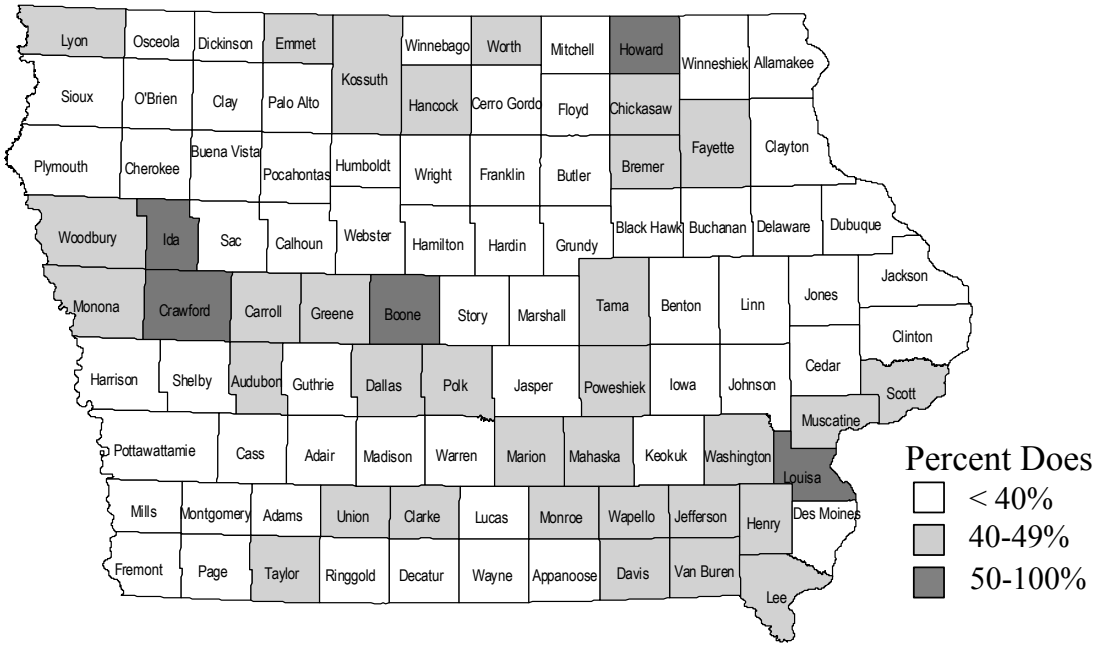


Season 1

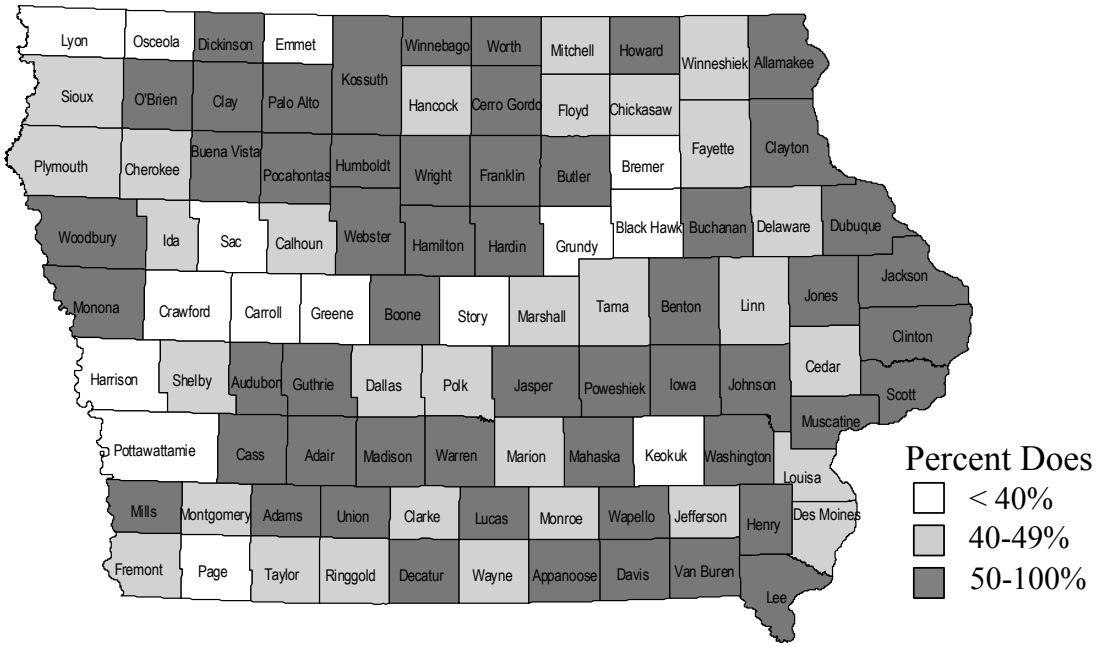


Season 2

Fig 1.4 The proportion of the harvest by hunters with paid licenses that were does during the 2001 shotgun season. The kill by hunters with free landowner/tenant licenses are not included since their licenses are valid for both seasons.



Season 1



Season 2

Fig 1.5 The average number of deer killed per square mile in each county during the 2002 deer season.

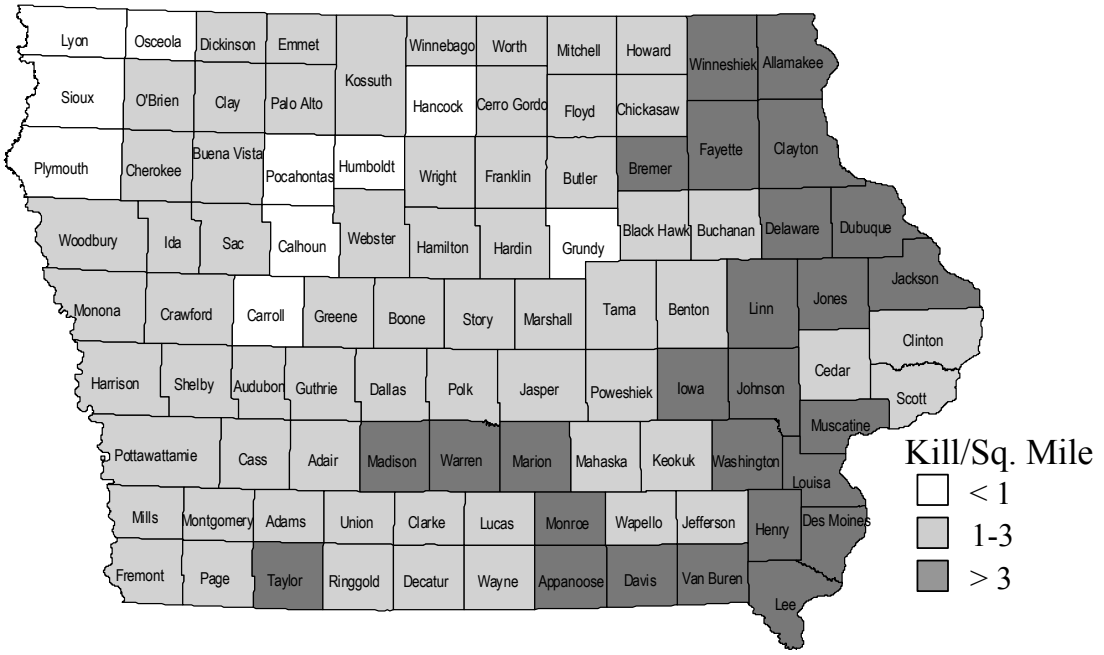


Fig 1.6 The proportion of the harvest that were does in each county during the 2002 deer season.

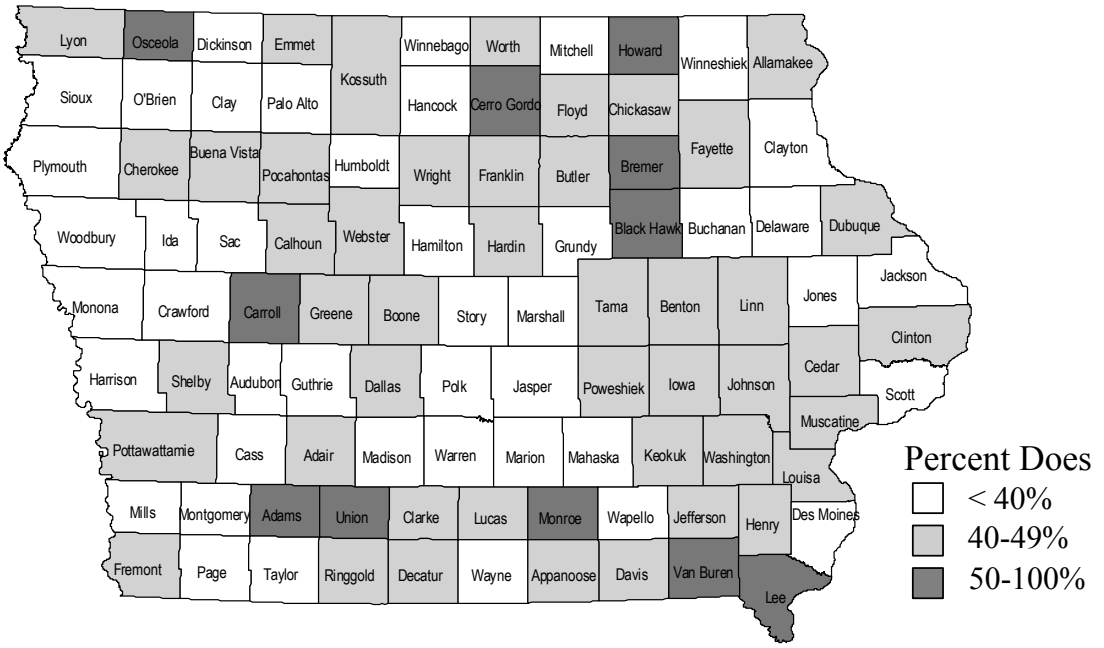


Fig 1.7 Deer population indices and correlation with simulation, 1985-present.

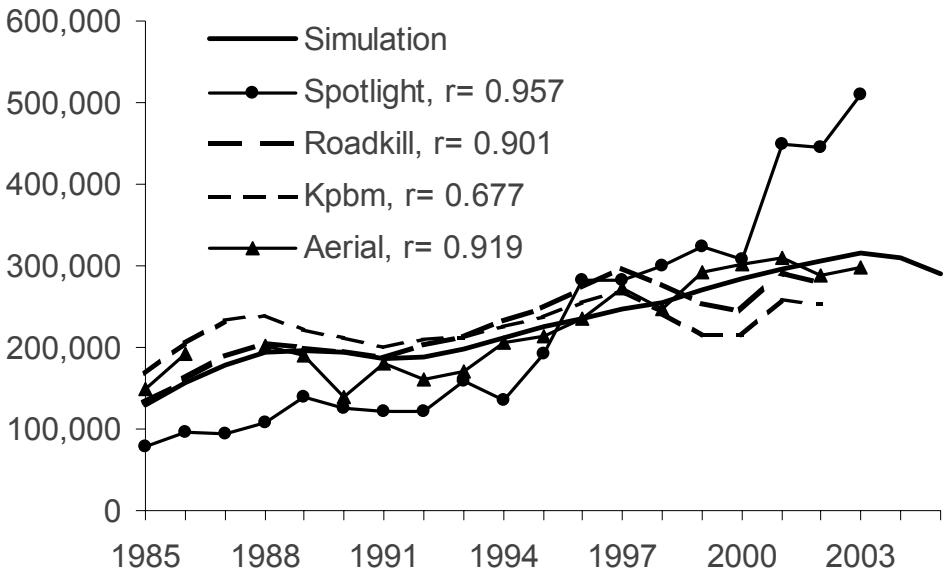


Fig 1.8 2002 Deer Hunting Zones